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THE FIELD OF EUGENIC REFORM

By Major LEONARD DARWIN

THE section of which this is the opening meeting deals with eugenics in relation to the state, to society and to education; it may be described as the section for applied genetics. I have been tempted to describe it as the section for practical eugenics; but that description would hardly be appropriate. The details of experimentation and research fall outside our sphere; but to make experiments is the most practical thing one can do. Your practical manufacturer knows full well that if he trusted to running forever on the old lines he would soon come to grief. We are, therefore, here dealing with the practical application of knowledge acquired by practical research.

Differences of opinion no doubt exist amongst those who have conducted the researches on which we have to build our practical superstructure; differences both as to methods and as to results. Even more marked differences are, however, sure to be felt in this section, where we have to apply to human conduct the knowledge acquired by others. Ought this to alarm us? I think not. I remember long ago seeing a picture in our English *Punch* in which a tailor is depicted when making excuses for some misfit as saying, "You must remember, sir, that tailoring has not yet been reduced to the level of one of the exact sciences." My views about eugenics are somewhat similar, though that is not the way I should express them. But we must remember that, as evolutionary science teaches us, uniformity always means stagnation. If we all felt alike, no one of us could ever pick up from a neighbor any wiser thoughts than his own; and we should therefore neither regret a certain amount of divergence of opinion nor attempt to hide it. If the beasts of the field had never fought together in the struggle for existence, mankind would never have been developed out of our ape-

¹ Held at the American Museum of Natural History, New York City, from September 22 to 28, 1921.

like ancestors. But do not mistake me. I am not advocating war, which is the most damnable thing on earth both as to its immediate and its racial consequences. We must obtain the benefits which did result from savage warfare in some other way; but competition we must have in everything, our opinions included. If any other eugenist should disagree entirely with my assertions, I shall feel in no way hurt!

But what is the foundation on which we, in this section, have to build? As I have already stated in this room, I hold that our aim as eugenists should be to increase the rate of multiplication of stocks above the average in hereditary qualities and to decrease it amongst the less fit. Others may wish to make our efforts cover a wider field, holding, for example, that the immediate benefits likely to arise from the teaching of sex hygiene should be included. With such as these I shall not quarrel for I am in full sympathy with their aims. But I do think that as a matter of convenience it would be as well to restrict the meaning of "eugenics" so as to make it cover no more than was intended by Sir Francis Galton who coined the word, that is, that it should apply only to measures affecting the inborn qualities of future generations.

Now as to the differences of opinion amongst us, I am glad to think that we are not divided into definitely antagonistic camps; for all are, as it were, linked together by the existence of every intermediate shade of opinion. No doubt at one end of the scale there are eugenists who regard racial progress as an assured law of nature, a progress merely to be hastened by the elimination of certain extremely undesirable types, such as the insane, the feeble-in-mind, and those endowed with grossly defective inborn constitutions. At the other end of the scale are those who regard the signs of the times as pointing without doubt to a slow and progressive deterioration in the innate qualities of all civilized peoples; that is, to national degradation, which it will only be possible to arrest by national efforts covering a wide field of endeavor. In short, though all eugenists aim at improving the inborn qualities of posterity, yet some would attack on a wider front than others. In this connection it may be convenient also to divide inborn qualities into two groups; groups which also can not be separated from each other by any very definite line of demarcation. At one end of the series we have qualities dependent on a single something which the child received before its birth from its parents, whilst qualities at the other end of the series depend on a large number of such somethings; just as we may divide tables into those which have one leg and those which have many supports. In technical language, the distinction here suggested for consideration is that between qualities dependent on a single Mendelian factor—or let us say on one or but few such factors—and qualities dependent on large numbers of factors. The qualities belonging to these two groups demand somewhat different treatment,

and some eugenists attach more importance to the one group and some to the other.

Let us first consider the single factor qualities—the one legged tables—in cases where such qualities are harmful; and let us take as a single example a deformity called brachydactyly, the symptoms of which are the fingers being excessively short. Now a child before its birth either has or has not been endowed with the factor resulting in this ailment. If it has not, it will not show these symptoms, and there is an end of the matter. If it has been so endowed, it is certain to have its hands crippled in this way, and it is, moreover, certain to pass on this deformity to many of its offspring. How the factor first arose in the ancestry of the brachydactylous child is unknown; but its apparently spontaneous appearance is at all events such a rare event that for practical purposes it may be neglected. This is the very simplest eugenic problem with which we have to deal; for if we could prevent parenthood in the case of all brachydactylous persons, we might thus stamp out this ailment forever. The matter is not often quite as simple as this; for, in regard to many defects, the child must receive the harmful endowment from *both* parents in order to be harmed thereby. If the endowment be received from one parent only, its recipient is apparently normal; but all the same he is the carrier of this hidden evil, very likely to be passed on to future generations, and to show its harmful effects when it chances to be combined in one individual with a similar endowment from another line of descent. Here also all that can be done is to prohibit parenthood in the case of all those who, by exhibiting the symptoms in question, show that they have the double dose of defective heredity; though here the beneficial effects will be more slowly obtained. In both cases all that has to be decided is whether the defect in the present and in all future generations constitutes an injury sufficiently grave to justify, *in this one generation only*, the actual prevention of parenthood or the self-sacrifice needed for its voluntary abandonment. The world could be freed from all such ailments more less quickly, and it is only a question in each case whether it is worth the cost of thus freeing it. But please note—and this is the point to which I especially wish to call your attention—if we were to rid the world of any one of these single-factor hereditary effects we should probably thus benefit mankind in no other respect.

Here I cannot refrain from saying a few words about the feeble-minded; though to do so is in a measure to depart from the thread of my argument. Whatever may be the final verdict of science as to the nature of the factors on which this grave evil depends, all experts now agree that it should be treated in the way in which single factor qualities should be dealt with; that is to say, each case should be studied separately and dealt with on its individual merits. Here in the United

States you have at least three hundred thousand or four hundred thousand of these unfortunates, and the numbers would probably be far greater if high grade cases were to be included. A very large proportion of the mental defectives who become parents will pass on this ailment to many of their children; whilst many of their offspring, though apparently normal themselves, will be endowed with the power of transmitting this to their descendants; and, if the interests of posterity are not to be grossly neglected, no feeble-minded person should be allowed to become a parent. Moreover, those who have studied the problem, all of them, I believe, agree that the right method to adopt is, as a rule, segregation; by which is meant confinement in comfort, the sexes being kept apart. We all hate interfering with liberty; but let it always be remembered that liberty necessitates equality, and that as equality is impossible with the feeble-in-mind, they can under no circumstances ever have true liberty. Segregation is unquestionably the kindest course to adopt in most cases, especially when all the natural protectors of the afflicted have disappeared. The creation of the necessary accommodations would present difficulties, but it would be a national economy in the long run.

There is, however, one difficulty to be faced which some eugenists have passed over too lightly. The feeble-in-mind often attract to themselves far more affection than would be expected by the inexperienced, and in nearly all cases the mother has strong instinctive sentiments in regard to her children. The removal of the mentally defective infant from its home is in consequence often keenly resented; a resentment which may no doubt frequently be overcome by argument, except when it is backed up by less reputable desires dependent on the possible economic advantages to the family. Here is a difficulty which must by no means be neglected; though in my country at all events, what is now greatly needed is to make the segregation of the mentally defective more easy, not more difficult, than it is at present. Now these conflicting considerations have forced me to consider what part sterilization could be made to play in the eugenic program. It is not for me to discuss what has been done in this respect in the United States; for there are many present who can deal with this topic better than I can. I am aware that the American Breeders Association has investigated this subject with care, and I wish to urge as strongly as I possibly can that a continuation of these scientific researches is the most practical thing that can now be done. We want to know what is the best method of sterilization, and what are all the objections to it. Is the X-ray method to be relied on? What effect would it have on the offspring if insufficiently applied to produce sterility? Is there any danger of cancer as a result? I strongly press this inquiry with regard to X-rays because I think that the adoption of surgical methods does

increase the prejudice against sterilization, especially in regard to the operation needed for women. The prejudice itself is very likely to be instinctive; for natural selection is almost certain to have eliminated all mental traits which are opposed to procreation. If this be so, this is a prejudice certain to be met with, and only to be overcome by reason.

If a sufficiently safe method of sterilization is available for both sexes as some experts now hold to be actually the case, would it not be a useful auxiliary to segregation? Mentally defective persons ought to be allowed to live at home, or boarded out where they can be useful provided that ample precautions are taken to make it certain that they can thus be maintained in equal contentment to when living in an institution, that all other conditions are suitable, and that procreation will be very improbable. Might not voluntary sterilization be regarded as a strong plea in favor of permission being given by the authorities for the mentally defective person not to be taken to an institution? Many parents would, I believe, gladly welcome this alternative, if carefully explained, in order to retain their child under their own care; though here again it should be ascertained that the home conditions are all suitable. No doubt sterilization may in some cases facilitate immorality; but if the authorities were given power to enforce segregation in the case of all sterilized persons found to be living an immoral life, the harmful consequences might be largely diminished. I am myself inclined to favor the introduction of sterilization as a voluntary and experimental measure; for if it proved to be successful, its use would certainly be extended, its racial advantages being obvious.

To revert to my main theme, we have seen that as regards such bad qualities as are dependent on one or but few mendelian factors, the right course to adopt is to consider and to deal with each case separately; and this is no doubt the way in which many eugenicists wish to treat all such human qualities as need be considered. Probably we shall all agree that the grossly unfit whether they be habitual criminals, utterly incorrigible wastrels, or those endowed with excessively bad natural constitutions, ought not to be allowed to become parents, each individual being separately weighed in the balance. But most of the bad qualities leading to gross unfitness are dependent on many factors, and what I now wish to suggest for your consideration is that the recognition of this fact ought to make us modify in certain respects the policy which we recommend for adoption. To make the point clear it will be better to turn to the consideration of good qualities and to study the methods of increasing the rate of multiplication of those well endowed by nature. No single good qualities known to me can be certainly attributed to the presence of a single factor; and if we consider the make-up of a man of genius, including reasoning power,

concentration of mind, energy, perseverance, faculty of observation, et cetera, et cetera, we may feel sure that many factors are involved. Almost every student of eugenics has at some time or other during his career attempted to sketch out schemes for the individual selection of a number of highly endowed persons, for inducing them to marry superior mates, and for the encouragement of the production of large families by these selected couples. Ought we not, therefore, to inquire to what extent reliance is to be placed on such methods when the qualities involved are dependent on many factors? The matter is complicated; but as it is one to which I am very anxious that the attention of eugenists should be directed, I beg for your patience whilst I try to illustrate the point in question.

If a few millionaires were to be selected, and all their wealth were to be distributed broadcast amongst the people, we may be certain that the result would be a feeling of keen disappointment amongst the originators of the plot, for each recipient would receive such a minute share of the booty. Again, if it were possible to create a few millionaires, wealth and all, and if generation after generation, their descendants were to dissipate this newly created wealth until it was widely scattered throughout the whole land, in this case also the ultimate benefits to the mass of the people would be very small. Now the eugenicist who wishes to see a number of eminent persons picked out and induced to produce large families is no doubt aiming at what would be equivalent to the creation of a number of distinguished persons in the coming generations; and I do not doubt that at all events as regards the next generation only, a marked success in this respect could thus be reaped. But we have seen that the good qualities of the selected parents would be due to many factors; and these factors, like the money of the spendthrift descendants of our millionaire would tend to become more and more widely scattered amongst the people in accordance with an inevitable law of nature; the final result being, we may be equally certain, very disappointing to the eugenicist, as far as ultimate racial results are concerned. If we want more millionaires—I am not saying whether we do or do not—one way to secure their presence in greater numbers in the future would be to raise the level of the wealth of the whole people; for the more we were to enrich the soil of any country, as it were, by increasing its total wealth, the greater would be the number of its inhabitants who would in the ordinary course of trade grow so rich as to become millionaires. In nearly the same way, if we want more persons eminent in morals, intellect, or physical strength to spring into existence in all the generations to come, the most certain method of achieving this result would be to raise the level of the whole people in regard to their inborn qualities. For if this could be done, the factors needed for the production of a

man of genius would exist in greater numbers; their union by chance in any one individual, or the actual appearance of a genius, would occur very often; whilst all the while the mass of the people would be receiving the benefits due to their improved natural endowments. Surely this then is a policy not to be neglected.¹

The effects of the wide distribution of a millionaire's wealth, even though disappointing to those concerned, yet if accepted as an illustration of the racial consequences of increasing the progeny of a number of selected persons, certainly give a greatly exaggerated idea of the benefits thus to be obtained; and we must seek for some more accurate method of attempting to estimate the probable results. Sir Francis Galton stated that one man in 4,000 might be fairly described as being "eminent" in intellect; and we may perhaps in like manner describe the tallest of a group of 4,000 men as being eminent in stature. Now Frederick the Great is said to have picked out the biggest men he could lay hands on, and then to have mated them by no gentle means to very tall women,² with the object of securing a number of huge recruits in the coming generation. To what extent the royal aspirations were fulfilled in this respect I do not know. But let us follow Frederick's example in imagination and consider what would be the effect of such a scheme on the average height of the people in future generations. In a town of 8,000 inhabitants there would probably be one man and one woman eminent in stature and let us imagine that we bring these two together, with the result that two more children

¹ The analogy of the inheritance of money is, of course, faulty in many respects. With natural inheritance the chances of a person receiving a good endowment from his parents are the same whether he has few brothers and sisters or many. Again, many have no money to leave to their descendants, and often money is only received from one parent. With natural inheritance every one is certain to receive an endowment, good or bad, from each parent, and one endowment is as important as the other. Lastly, whilst we can aim at a more even distribution of wealth, it would be impossible, even if we would, to prevent the fortuitous coming together of the necessary factors so as to produce a man of genius.

² Frederick would have produced nearly the same ultimate results on the race if he had allowed his male and female giants to marry whom they liked provided their progeny increased. It has not been sufficiently recognized that, putting aside the effects of assortive mating, the only racial advantages of *mating* the selected individuals are (a) the immediate production of giants, for example, and (b) that greater results can perhaps thus be obtained for the same money, as one stimulus then affects two selected individuals. It should also be noted that if in consequence of their selection the selected persons were moved out of a more fertile into a less fertile stratum of society, and if their descendants remained in that less fertile stratum, then the ultimate results would be dysgenic, whatever might be the more immediate consequences. In these circumstances thus to create an improved type in perpetuity would necessitate the establishment of a rigid caste system.

are brought into the world than would be the case if we had not interfered. Looking to the male part of the population only—for simplicity and not out of disrespect to the female half—we should find that our tall man was rather under nine inches in height above the average; and, as a rough approximation to the truth, we may imagine that after many generations these nine inches would become evenly distributed amongst the whole male population of the town; or, in other words, that we should thus have raised the average stature of that town by a little more than one five-hundredth part of an inch.³ If this be a true conclusion, as I believe it to be, you may judge that if you were to pick out the 12,500 tallest men and 12,500 tallest women in each generation in the United States, if you were to mate them together and if somehow or other you were to induce each couple to have two *additional* children, you would thus in about 1,500 years raise the average height of your citizens by one inch! In passing I can not help expressing my pity for any official in charge of a department of state dealing with any such duties! But what I really wish you here to note is that mental qualities though not as easily measured as physical characteristics, are distributed in accordance with the same laws and are no more easily improved by dealing with selected groups. Does not this way of regarding the matter throw serious doubts on the ultimate advantages of eugenic reform of this kind; that is, of picking out a comparatively small number of selected persons on account of qualities dependent on many factors. Our main endeavor ought to be to raise the level of the whole people in regard to their inborn qualities, for which purpose large numbers must be affected; and I am inclined to believe that the success of our efforts to promote racial progress will depend largely on this fact being fully recognized by eugenic reformers.

Since we are getting on well enough as we are, why not let things alone? Before adopting the hopeful attitude indicated by this inquiry we ought carefully to consider whether at the present time civilized nations are advancing or deteriorating in regard to their inborn qualities; a most difficult question to answer decisively. Here we enter the region where keen feelings are likely to be aroused; and, to avoid the distorting effect of prejudice, let us look to the future rather than to the present. Now these young men of to-day who are endowed with good natural abilities and constitutions will be nearly all certain in time to earn for themselves a fairly good livelihood, whilst the reverse will be the case with those ill-endowed by nature. Then again, those

³ The increase in stature would in truth be materially less than .002 of an inch; for regression due to dominance and other circumstances has to be taken into account. See "Correlation between Relatives," R. A. Fisher *Trans. Royal Soc. Edin.* Vol. III, Part 2 (No. 15).

who are members of small families will receive greater advantages in education and in many other respects than will the members of big families and they will in consequence more easily win their way to the front. These two selective processes will be more effective as civilization advances; and as a result we may expect to find in the future in the ranks of the well to do a most harmful combination of qualities more and more often appearing; that is to say, superior in-born qualities more and more often combined with all those natural tendencies which tend to favor the production of small families; these latter including natural infertility and an innate desire to consider the welfare of children as yet unborn. The result to be anticipated is that, in comparison with the ill-endowed, the naturally well-endowed will as time goes on take a smaller and smaller part in the production of the coming generations, with a tendency to progressive racial deterioration as an inevitable consequence.⁴ And if we ask whether existent facts confirm or refute this dismal forecast, what do we find? Statistical inquiries at all events prove conclusively that, where good incomes are being won, there the families are on the average very small. Moreover, history teaches us that in the remote past ancient civilizations, after rising to a climax, often began to sink and sink until they disappeared off the face of the earth. These problems are too complex now to be discussed at length; and I can only assert that I can find no facts which refute the theoretical conclusion that the inborn qualities of civilized communities are deteriorating, a process which must inevitably lead in time to an all round downward movement. I am, of course, regarding this question broadly and generally, but I can not refrain from adding that the United States has a mighty future before it, on which the civilization of the whole world may in a large measure depend. It is, therefore, doubly incumbent on its citizens to consider whether their best or their worst stocks are now multiplying most rapidly. If it is the worst stocks, and if no steps are taken to remedy the evil, then this country may in consequence miss an opportunity of filling a most glorious page in future history.

⁴ The theoretical side of all these questions is here quite inadequately discussed. Many authorities have pointed out the effect of wealth in reducing fertility, a subject not here dealt with, though I have been convinced it is a most important factor. As to the possible influence of physiological infertility, see "Human Fertility" by J. A. Cobb, *Eugenics Review*, January 1913. As to the effect of mental traits on fertility and racial progress, see "Some Hopes of a Eugenist" by R. A. Fisher, *Eugenics Review*, January 1914. These topics have been discussed by me at greater length in "The Need for Widespread Eugenic Reform," *Eugenics Review*, October 1918; "Eugenics in Relation to Economics and Statistics," *Journal of Royal Statistical Society*, January 1919; "Some Birth Rate Problems," *Eugenics Review*, October 1920 and January 1921. See also "The Habitual Criminal," *Eugenics Review*, October 1914.

If in all civilized countries the forces the existence of which I have but too briefly indicated, are producing deteriorating influences by acting on the masses of the people, then the only way to counteract this tendency is to set in operation other forces which will affect large numbers in the opposite direction. But how is this to be accomplished? As to good qualities, what I hold to be the main remedy can be expressed in so few words that its great importance is likely to be overlooked. What is necessary is to make it widely and deeply felt that it is both immoral and unpatriotic for couples sound in mind and body to unduly limit the size of their families. No doubt difficulties will be experienced in deciding to what extent the duty of parenthood is imposed in individual cases; difficulties which I have no time to discuss. The main difficulty will, however, be to get this duty strongly felt by the mass of the people; for success in this endeavor would, I am convinced, have a much greater effect on the size of families than common sense alone would indicate. Failure is, however, certain if the problem is not attacked with religious zeal. There ought to be a great moral campaign against the selfish regard for personal comfort and social advancement, for these aims must in a measure be sacrificed on the altar of family life if racial progress is to be insured. We must all learn that if envy and jealousy could be banished, the happiness of our children would depend greatly on their inborn qualities and but little on their place in society. We should recognize that we shall best serve our country by bringing healthy and intelligent children into the world, provided that we can give them a sound education and a fair chance of winning a good livelihood; and all of us should be ready to make some sacrifice of social position in order to obey our country's call in this respect. The nation that wins in this moral campaign will have gone half way towards gaining an all round racial victory.

There are no doubt many economic methods of increasing the rate of multiplication of the people; methods which would be beneficial if applied to good stocks and harmful in the case of inferior types. The main reason why persons of high character limit the size of their families is in order to insure that all the children they do bring into the world shall have a good start in life. Obviously the simplest way to remove this check on fertility is for the state to step in and ease the financial strain on parents due to the upbringing of their children. This method must, however, never be applied indiscriminately or without consideration, for the qualities of the types affected must ever be held in view; and this is especially to be noted in connection with all schemes for motherhood endowment. Then again an increase of taxation is equivalent to an increase in the poverty or a decrease in the wealth of the persons taxed; and such a change in their prospects will tend to make all couples still further limit the size of their families;

unless indeed they are naturally incapable of taking thought for the morrow.⁵ It follows that to increase the taxation on the more fit in order to ease the strain of family life amongst the less fit would do a double dose of harm; that is by decreasing the output of children where it should be increased and by increasing it where it should be diminished. There are no doubt evils which can not altogether be avoided; for we are bound to pay attention to the needs of all who suffer, whatever may be their natural qualities. If only looking to the types whose multiplication we want to promote, what we can safely do is to increase the taxation on the unmarried and the childless and, out of the proceeds, to give advantages to the parent of growing families *in the same social stratum*. In regard to all proposals such as that recently made in Australia, for directly or indirectly taking from all workmen a portion of their earnings and for distributing the money thus obtained amongst parents in proportion to the number of their young children, here again the racial effects will be good if, and only if, the benefits received by each couple are proportionate to the contributions made by members of the same group to which they belong, a condition almost certain to be neglected. The economic principles, which I have all too hastily alluded to, involve many puzzling questions in regard to their application; but to neglect them altogether is to court a great racial danger.

Turning to the consideration of influences which would tend to diminish the rate of multiplication of inferior types, we see that the grossly unfit can be separated from the normal population with but little doubt, and that they are often a serious nuisance to society. As regards most of these types it is probable that seven mendelian factors are involved; but even if that be so it is not improbable that some one of the resulting bad qualities may be due to a single factor. For all these reasons it seems right that the grossly unfit should be selected individually from the rest of the population, and that in their case parenthood should be prevented by segregation, with voluntary sterilization as an experimental auxiliary. But here also some attention should be paid to the principle which I am advocating, namely, that with qualities dependent on many factors it is as a rule best to aim at dealing with large numbers rather than with the extreme cases. Taking the criminal population as a single example, it is found that those who have been frequently in prison are practically certain to revert to crime when liberated. These habitual criminals form the bulk of the prison population; they have no good qualities to recommend them; they are too stupid to avoid detection, and the only courage

⁵ It should be noted that I am speaking of an *increase* of taxation and not of high taxation. The ultimate racial effects of high taxation are difficult to foretell.

which they show is that needed to face disgrace and imprisonment. Merely to reduce the fertility of large numbers of this class would be more beneficial from the racial point of view than to absolutely prohibit parenthood in the case of a small number of persons convicted of grave crimes; persons who at all events are often intelligent and courageous. With the habitual criminal the length of detention should be increased and its severity diminished after each conviction; periods of liberty should be given until it is quite certain that no cure can be effected; and in the end the malefactor should be regarded as a person to be permanently detained because he is incapable of self management, all idea of punishment being abandoned. The benefits thus to be derived are indicated by the statistically proved facts that lengthy imprisonment does lessen the number of progeny of the criminal, and that his children are at least ten times more likely to be sent to prison than are the children of honest parents. Even those who do not believe in heredity may, therefore, be inclined to hold that permanent segregation is justifiable after many convictions. We should endeavor to deal in the same way with the wastrel, the drunkard, and the work shy; that is as members of large classes the size of which ought to be diminished rather than as individuals requiring separate consideration.

If it be true, as I hold, that there are hidden forces continually at work tending to relatively increase the rate of multiplication of large numbers of those who are below the average in the various qualities held to be desirable, then efforts to deal with the obviously unfit would not alone stem this tendency toward racial deterioration. To prevent our civilization from slowly sinking in the future, some far more widespread action is needed. But how are we, it may be well to ask, to pick out large numbers of the population whose hereditary influence on posterity will tend to drag down the average? ⁶ Now we shall all probably agree that the fewer young men there are in any country, who prove themselves to be incapable of winning sufficient wages to maintain a family in decency, the better it will be for the community as a whole. This is true even if we only look to the comfort and well being of the children destined to be born in these ill-found homes. Here we are of course tempted to urge that the state should step in and see to it that no disadvantages are felt by the little unfortunates likely to be brought up in bad surroundings for which they would be in no way responsible. Any such action would, however, increase the birth rate of the class affected. Now bad surroundings doubtless tend to increase the number of social failures; a cause of failure which, we may believe will become less and less operative with every advance in civilization. But a very large proportion of those incapable of support-

⁶ It must be remembered that this must be true of half the population.

ing a family in decency in normally prosperous times are characterized by certain inborn defects; such as weak constitutions, inferior mental powers, unstable moral qualities, etc., all of which are in a measure to be passed on to posterity. State action of the kind just suggested must therefore be harmful in its racial effects; for we ought to check rather than to increase the size of families born in squalid surroundings. How can this be done? This is a problem to which I most earnestly hope that eugenists will turn their attention; for I confess I have found myself no very satisfactory solution. I can only suggest that state and charitable aid should never be given in such profusion as to prevent the appearance of each child from causing any additional financial strain on the household, for fertility is decreased by financial pressure; but I hardly know what to suggest in the case of those who in spite of this pressure persist in procreation in evil surroundings; and perhaps for the present we should concentrate our attention on the attempt to secure a general approval of the desire to lessen the output of children in such circumstances. But the problems involved must be solved sooner or later, and in attempting to solve them we must remember that every reform does harm as well as good, and that all we can do is to make reasonably certain that the good results will preponderate over the evil. In order to prevent the civilized nations of the world from slowly losing what has been won by long ages of suffering, no doubt sacrifices must be made and some suffering yet endured. But if we have courage to face this problem without flinching; if we fearlessly advocate what we hold to be right, in spite of the unpopularity of the safeguards and remedies we suggest; and if we can in the end secure wide approval of our aims; then I am myself certain that we shall be able to introduce reforms which will secure untold benefits for mankind, in all the long, long ages to come.

In conclusion may I once again indicate the contrast which, I suggest, ought always to be held in view in framing plans for eugenic reform; a contrast which I have painted with such a broad brush that many qualifications have of necessity been omitted and many points but ill-explained. I have endeavored to show that, for the purpose of our discussions, human qualities may be divided into two ill-defined groups, with intermediate types between them. At the one extreme there are the single factor qualities; in the case of persons possessing bad qualities near this end of the series, they should be individually selected and examined and then each treated accordingly. Here we should be dealing for the most part with pathological cases or with persons who are likely to become a nuisance to society; the aim of the eugenic reformer would usually be to rid the world of some definite defect. These are the cases which are least in dispute, and where racial benefits can be most rapidly obtained; and for these reasons it is perhaps

to these qualities that our attention should first of all be directed. At the other extreme are those characteristics which separate whole classes of a community from each other, and which obviously depend on a great many factors. Here we generally have to look to the class as a whole, and to apply such remedies as do not necessitate the selection of individuals, the aim being to raise the level of the whole people. It is on such qualities as these that the slow improvement or deterioration of our civilization will in the main ultimately depend; and if they be neglected in our schemes of eugenic reform, we shall before very long begin to lapse back again towards barbarism, thus following in the footsteps of many highly cultivated nations in the past. On the other hand, if our biologists face these problems more earnestly in the future than they have in the past, if our politicians pay more attention to the advice of scientific experts than has hitherto been customary, and if the general public will be guided by common sense in regard to heredity, then I hold that we shall have more right to look with confidence to the future than ever has been the case since the dawn of civilization.